

USSN: 10/723,389  
Docket No.: 2003B103/2  
Response dated December 17, 2006  
Reply to Office Action of August 17, 2006

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**REMARKS**

**Claim Status**

Claims 36-64 and 72 remain pending in this application for the Examiner's review and reconsideration. Claims 1-35 and 66-71 have been withdrawn as directed to a non-elected species; nevertheless, claims 1, 66, and 69 have been amended to clarify their scope and to address formalities. Claim 65 has been cancelled. Claim 36 has been amended to specify that the molten resin is at  $T_{\text{melt}}$  and that the heater is capable of locally heating the molten resin to a temperature from about 30°C to 170°C greater than  $T_{\text{melt}}$ . Claim 47 was amended to use the generic term for a trademarked item. Claims 51, 59, and 61-64 have been amended to attend to formalities. Claim 72 has been amended to read as an independent claim by incorporating the subject matter of claim 27 therein. No new matter has been added by these amendments.

Initially, Applicants note that claim 43, reciting a monolithic die plate and depending from independent claim 36, is nowhere rejected. Applicants thus respectfully submit that this claim is allowable and respectfully request that the Examiner affirmatively indicate its allowability over the prior art of record in a subsequent Office Action.

**Trademark Objections**

The references to "Inconel" in the claims have been amended to be identified generically as nickel steel.

**Claim Objections and 35 U.S.C. § 112 Claim Rejections**

Claim 72 was objected to as being dependent on a withdrawn claim and rejected under 35 U.S.C. § 112, second paragraph, for being indefinite as being drawn to a

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product or apparatus claim. Applicants respectfully traverse.

Claim 72 has been amended to read as an independent claim by incorporating the subject matter of claim 27. It now defines an extrusion die assembly including a monolithic heater. Accordingly, it should be considered in this case in the same manner as claim 51, although it is independent thereof.

Thus, Applicants respectfully submit that the indefiniteness rejection and objections to claim 72 have been overcome and/or rendered moot. Applicants, thus, respectfully request the reconsideration and withdrawal of these rejections/objections.

### **35 U.S.C. § 102(b) Rejections**

Claims 36-38, 44, 47, 51-53, 56, 58-59, 62, and 65 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,204,045 to Courval *et al.* (hereinafter "Courval"), for the reasons set forth on pages 4-5 of the Office Action. Applicants respectfully traverse.

The rejection cites Courval for disclosure of fluidically connected die plates of appropriate materials. As claim 65 has been cancelled, Applicants respectfully traverse with respect to the remaining claims, all of which are directly or indirectly dependent from claim 36 or claim 51, because independent claims 36 and 51 both refer to a molten resin or polymer melt at a temperature of  $T_{melt}$  and because Courval discloses only apparatus for bulk solid polymer, melting only a small portion near the die exit.

Further, claim 36 has been amended to recite that the heater is capable of locally heating the resin to a temperature from about 30°C to 170°C greater than the melt temperature. Similarly, claim 51 requires a heating means capable of heating the polymer melt to a temperature higher than the melting temperature. Indeed, Courval does not disclose or suggest all the elements of the invention, as presently claimed.

On the contrary, Courval is directed strictly to solid polymer forced through the die below melting temperatures and only melting a slight portion near the die exit. There is no disclosure or suggestion of a heater to increase the temperature of an already molten

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material. *See* the Courval Examples, where the billet temperatures are 80-160°C and the die temperatures are 100-220°C, while simultaneously teaching a die to billet temperature ratio of 0.9-1.2. No melt temperature heating of the die to use molten resin therein is taught or suggested, and no heater capable of higher heating is disclosed or suggested. Indeed, one of ordinary skill in the art reading Courval would not have recognized any need for higher temperature, as only the melt temperature at the die exit need be reached.

For any of the foregoing reasons, Applicants respectfully submit that the anticipation rejection cannot be maintained. Applicants, thus, respectfully request the reconsideration and withdrawal of the anticipation rejection of claims 36-38, 44, 47, 51-53, 56, 58-59, 62, and 65.

Claims 36, 38, 40, 42, 47, and 51-55 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,830,545 to Bentivoglio *et al.* (hereinafter "Bentivoglio"), for the reasons set forth on pages 5-7 of the Office Action. Applicants respectfully traverse.

Bentivoglio is cited for its die plate assembly including upstream and downstream faces and use of liquid resin. Although Bentivoglio uses molten resin, Applicants respectfully submit that its blown film die with center air chamber does not teach or suggest a heater for increasing the temperature of the resin at the die exit to above the melting temperature (*e.g.*, so as to avoid surface melt fracture). No temperatures at all are taught by Bentivoglio so there is no disclosure of a heater to increase the resin temperature above  $T_{\text{melt}}$  or by at least 30°C, as recited in the pending claims, as amended. *See, e.g.*, Bentivoglio at column 2, lines 11-20, where keeping consistent temperature from the resin to that portion at the lips is taught. On the contrary, the present invention is concerned with raising that difference.

For any of the foregoing reasons, Applicants respectfully submit that the anticipation rejection cannot be maintained. Applicants, thus, respectfully request the reconsideration and withdrawal of the anticipation rejection of claims 36, 38, 40, 42, 47, and 51-55.

USSN: 10/723,389  
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Claims 36, 38-42, 44-55, 57, 59-65, and 72 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,123,207 to Dudley (hereinafter "Dudley"), for the reasons set forth on pages 7-9 of the Office Action. Applicants respectfully traverse.

Dudley is cited for a die plate assembly with upstream and downstream plates fluidically connected by a passage and having a downstream insulated heater. Applicants respectfully submit that Dudley does not disclose or suggest a heater for increasing the temperature of the resin at the die exit. Applicants further respectfully submit that Dudley does not explicitly disclose using resin at a temperature from about 30°C to 170°C greater than the melting temperature, as recited in independent claim 36, for example.

Rather, even if Dudley is interpreted to use resin above a  $T_{\text{melt}}$ , it nevertheless suggests consistent heating along the length of the die. In Dudley, steam paths are used so that steam flows from 404 to 420 to 440 in the drawing Figures, and uniform heating is achieved. See Dudley at column 4, lines 3-13. A heater for increasing the melt temperature proximate the die exit is not disclosed nor suggested. If anything, the steam near the die exit is at a lower temperature, its heat being spent upstream of the die exit.

For any of the foregoing reasons, Applicants respectfully submit that the anticipation rejection cannot be maintained. Applicants, thus, respectfully request the reconsideration and withdrawal of the anticipation rejection of claims 36, 38-42, 44-55, 57, 59-65, and 72.

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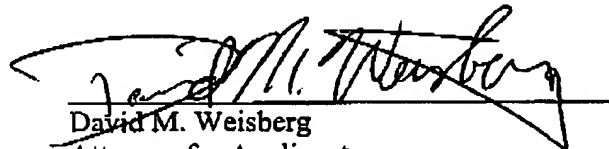
**CONCLUSION**

Reconsideration in view of the amendments to the elected claims, and allowance of the application are respectfully requested. If any points remain in issue that the Examiner feels may be best resolved through a telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1712 (Docket #: 2003B103/2).

Respectfully submitted,

Date: 12/18/06

  
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